MODIS Science Data Support Team (SDST) Meeting Minutes 06/04/93

ATTENDEES: John Bauernschub, Francesco Bordi, Lloyd Carpenter, Dave Case, Ruiming Chen, Larry Fishtahler, Tom Goff, Paul Hubanks, Geir Kvaran, Ed Masuoka, John Moses, J.J. Pan, Shahin Samadi, Greg Schmidt, Carl Solomon, Robert Stewart, Jim Storey, Lalit Wanchoo

MODIS AIRBORNE SIMULATOR (MAS): Paul Hubanks converted the existing MAS processing software from NetCDF to HDF. No source code changes were required. The HDF libraries were installed using the CCKR C compiler. (Error messages were returned when he used the ANSI C compiler. The cause of this problem will be identified.) Current users of the MAS data will be contacted and assisted, if necessary, in the conversion of their libraries from NetCDF to HDF.

Both navigation recorders failed on two of the TOGA/COARE and CEPEX flights. Custom programming will be necessary, if justified by the importance of the data, from these particular flights. Paul Hubanks will ask Michael King about the importance of these data.

MODIS LEVEL 1A SOFTWARE REQUIREMENTS REVIEW: Jim Storey has written responses to the MODIS Level 1A Software Requirements Review (SRR) Review Item Discrepancies (RIDs) related to geolocation and reprocessing. The reprocessing requirement was also reworded.

ORBIT AND ATTITUDE DATA: Jim Storey prepared a draft memo to Bill Barnes requesting that all spacecraft ancillary data messages be included in the MODIS data stream. Information from Joe Garrick is that the attitude control system operates on a 512 millisecond cycle time with updates from the star trackers every 10 seconds. Attitude data is broadcast to the instruments every 1.024 seconds or every other filter cycle. The gyro data is sampled every 128 milliseconds, but it is prefiltered to remove the high frequency components. Joe said that he thought the raw gyro data was included somewhere in the spacecraft telemetry but wasn't sure where or in what form. Jim tried, without success, to contact Terry Ford to verify that they had taken the 1.024 second sampling interval and any associated interpolation error into account in developing their pointing knowledge error estimates. The position and attitude information was corroborated by Francesco Bordi.

GLOBAL LAND INFORMATION SYSTEM (GLIS) SOFTWARE: Jim Storey determined from John Faundeen that the XGLIS software is available on an anonymous ftp site, complete with README files and installation instructions. The current version of XGLIS is only supported in the SUN environment. Versions of the XGLIS software for Silicon Graphics, Data General and the IBM R6000 are scheduled for development in FY94.

MODIS GEOLOCATION PROTOTYPING/AVHRR TESTING: Jim Storey identified the goals of the planned geolocation prototyping effort using AVHRR data

from the EDC global data set. The goals include: 1) developing prototype control point library and correlation techniques, 2) studying long arc orbit/attitude behavior (stability), 3) evaluating the potential for block triangulation (tie pointing), and 4) developing prototype terrain correction.

The geolocation prototyping activities are expected to begin in earnest in early August.

Significant progress has been made in acquiring suitable AVHRR data for geolocation prototyping from Jeff Eidenshink and reading the sample 1B format tape using the LAS software.

MODIS PROTOTYPING EFFORT: The objective of the MODIS Prototyping Effort is to develop prototypes of the software for processing Land and Atmosphere group products in the EOSDIS Product Generation System (PGS). This will be accomplished by assembling algorithms from MODIS investigators into processing packages that mirror how their algorithms will process data in the PGS.

Ruiming Chen of the MODIS SDST is contacting members of the MODIS Land and Atmosphere Teams to locate early versions of these algorithms. Last week she contacted Dr. Alan Strahler of the MODIS Land Team and discussed prototyping activities that would assist the Land Team and accelerate the delivery of prototype algorithms to the SDST.

PGS TOOL KIT FUNCTIONS: J.J. Pan discussed the PGS tool categories given in the 1993 version of the PGS tool kit report, and a preliminary set of tools which will be required for the MODIS science data processing.

CALENDAR: An updated calendar of near-term meetings was included in the handout.

ACTION ITEMS:

1. 05/14/93 [J.J. PAN]. Due Date: 06/04/93. Make a list of desired features of the PGS toolkit. STATUS: Closed.

2. 05/21/93 [Jim Storey]. Due Date: 05/28/93. Get the latest information on the platform position and attitude update interval from GE and/or TONS. STATUS: Closed.

3. 05/21/93 [Ed Masuoka]. Due Date: 05/28/93. Arrange a meeting with the SeaWiFS group and SDST programmers to discuss SeaWiFS browse software. (An E-mail message was sent to the SeaWiFS software person.) STATUS: Open.

4. 05/21/93 [Lloyd Carpenter]. Due Date: 05/28/93. Post the SDST responses to all currently received RIDs back to the original writers. (The RID responses are being processed.) STATUS: Open.

5. 05/21/93 [Lloyd Carpenter]. Due Date: June 14 (draft), June 21

(final). Create a generic document template for the interchange of information between MODIS and other instruments. STATUS: Open.

6. 05/21/93 [Lloyd Carpenter]. Due Date: 06/18/93. Complete the first draft of the MODIS Operations Concept document. Provide a plan for this document by 05/28/93. (An outline was provided on May 28, 1993.) STATUS: Open.

7. 05/28/93 [Jim Storey]. Due Date: 06/30/93. Complete an Algorithm Theoretical Basis Document (ATBD) for MODIS Level 1A Geolocation. STATUS: Open.

8. 05/28/93 [Shahin Samadi]. Due Date: 06/30/93. Get a copy of the Global Land Information System (GLIS) from EDC onto the SUN. STATUS: Open.

9. 05/28/93 [Geir Kvaran]. Due Date: 06/11/93. Get a copy of the latest MCST calibration algorithm discussion and diagram for SDST use. STATUS: Open.

10. 05/28/93 [Francesco Bordi]. Due Date: 06/04/93. Characterize the S/C position and attitude as to accuracy, timeliness, jitter, Kalman filtering, etc. STATUS: Closed.

11. 05/28/93 [Jim Storey]. Due Date: 07/30/93. Develop a plan and schedule for MODIS geolocation prototyping and testing. STATUS: Open.

12. 05/28/93 [Larry Fishtahler]. Due Date: 06/04/93. Obtain a current copy of the PGS Toolkit Study Report for the SDST. STATUS: Closed.